A NEW DEVELOPMENT IN MECHANIZATION

By MR. H. C. PEIRIS

Shortage of labour, increasing wages and dwindling world prices makes it necessary to increase production per man-hour, and in the case of certain cultural practices obtaining on coconut estates gross production itself. To a large extent this has been achieved by the increasing use of tractors and other mechanized units on coconut estates. However, one important field operation which has defied mechanization hitherto is draining.

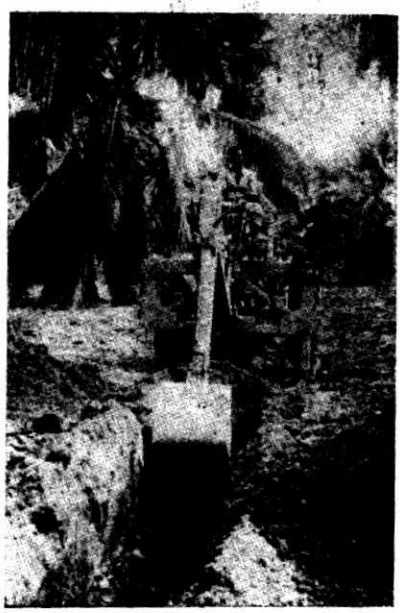
The importance of drainage for coconut is well known. The coconut palm cannot tolerate water stagnation for long, and low lying lands where the water table is high, must be suitably drained to take away the surplus water. On the other hand on high land run-off, which is that part of rainfall which finds itself into the river system, must be conserved as far as is possible, thereby minimising the loss of fertile top soil, by a suitable network of drains on an estate.

In common with most other Agricultural crops, moisture is a great limiting factor in the successful cultivation of coconut, and for this reason much emphasis is placed on the percolation of water, retention, and many

field operations are directed to achieve this, including the opening of drains in its many forms and the burying of Husks. These operations can now be mechanized.

An Industrial Tractor with a hydraulic digger and power shovel are used for a variety of earth works by construction engineers in many countries of the world. This equipment excavates a trench of the required depth working effectively through a variety of soil conditions. This equipment was first tried out on a coconut estate some months ago, and has been in operation since.

The equipment consists essentially, of an Industrial Tractor, a hydraulically operated digger which is attached behind, and a power shovel fitted in front, also hydraulically operated. Vertical stabilisers makes its possible to operate the machine on uneven ground. The unit is operated by one man. Working under estate conditions, it has been found possible to open over 1000 linear feet of 2′ × 18″ drains, depending on the terrain.



The economic use of tractors and other mechanized units entails using them as much as possible. Capital cost, interest on capital, maintenance and depreciation have to be taken into account and the more use that is made of the machine, the less it costs per unit of work. At the phenomenal rate of 1000 linear feet per day, this unit could successfully complete all the draining work necessary, on even large estates in a comparatively short time, so that it becomes necessary to think in terms of finding suitable work for the rest of the year. It has been found to be admirably suited

for the opening of husk pits. The whole operation of opening a large sized pit and closing can be accomplished in the space of 5-10 minutes. This makes it possible to complete around 50 husk pits per working day of eight hours.

Apart from the two cultivation works mentioned, the power digger and the power shovel which comprise this attachment, can be used for many other purposes. The removal of ant hills, the cutting of water channels, the deepening of tanks, the building of roads and bunds are some of the other applications that can be cheaply done. Earthwork of this nature can otherwise prove to be costly and unless there is a large work-force available, a slow and irksome process.*†

*Should any estate owner or Superintendent desire to see this implement in operation, they should kindly contact the writer who will be glad to arrange this.

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